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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,683	08/28/2003	Imants Lauks	PAT 927-2 US	5656
26123 7590 06/08/2009 BORDEN LADNER GERVAIS LLP Anne Kinsman WORLD EXCHANGE PLAZA 100 QUEEN STREET SUITE 1100 OTTAWA, ON K1P 1J9 CANADA			EXAMINER NAGPAUL, JYOTI	
			ART UNIT 1797	PAPER NUMBER
			NOTIFICATION DATE 06/08/2009	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/649,683	Applicant(s) LAUKS ET AL.	
	Examiner JYOTI NAGPAUL	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment filed on April 7, 2009 has been acknowledged. Claims 1-12 and 14-28 are pending.

Response to Amendment

Rejection of Claims 1-9, 13-14, 21, 24-28, 81, 83 and 84 as being anticipated by Stiene (WO 02/49507) has been withdrawn in light of applicants' amendments.

Rejection of Claims 10-12, 15-20, 22-23 and 82 as being unpatentable over Stiene in view of Paul (US 6013164) has been withdrawn in light of applicants' amendments.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-12 and 14-28** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 3, line 9 recites "the fluidic path automatically filling with the injector fluid up to the effluent end.." Is applicant referring to the injector or sample fluidic path? Correction needed. Claims 1 and 3, line 18 recites "preventing passive injector fluid flow from the effluent end.." It is suggested that applicants recite —preventing passive injector fluid flow from the effluent end *of the injector fluid flow path*— to be clear as to which fluid flow path the effluent end is in.
3. Claim 12 recites the limitation "the receiving element" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1-12 and 14-28** are rejected under 35 U.S.C. 103(a) as being obvious over Lauks (US 7201833).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Lauks teaches an integrated solid phase hydrophilic matrix circuit device. The device comprises an initially closed integral injector fluid reservoir (712 or 714 or 717) containing an aqueous injector fluid having a preselected electrolyte concentration. The device further comprises an initially dry microporous injector fluid flow path (716) having an injector fluid application end for accepting the injector fluid from the reservoir, refer to col. 44, lines 5-10, and an injector fluid effluent end (B or B' refer to Figure 7B) for connecting to the sample fluid containing flow path of the sample fluid analysis device. Lauks further teaches the fluidic path automatically filling by capillary action with the

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injector fluid up to the effluent end (B or B') upon supply of the injector fluid to the application end. Lauks further teaches an isolator or air gap (720 or 721) for fluidically preventing passive injector fluid flow from the effluent end (B or B') into the sample fluid flow path (716) when the injector fluid flow path includes the injector fluid. Lauks further teaches driving means or electrodes (702-705) for electro-osmotically pumping the injector fluid in the injector fluid across the isolator or air gap (720 or 721) to force the injector fluid into the sample fluid flow path. Applicants further recite "when the sample fluid flow path includes the sample, for advancing the sample fluid in the sample fluid flow path by hydraulically pushing the sample along the sample flow path with the injector fluid." This limitation is considered an intended use or process limitation, which do not further delineate the structure of the claimed apparatus from that of the prior art. Since these claims are drawn to an apparatus statutory class of invention, it is the structural limitations of the apparatus, as recited in the claims, which are considered in determining the patentability of the apparatus itself. These recited process or intended use limitations are accorded no patentable weight to an apparatus. Process limitations do not add patentability to a structure, which is not distinguished from the prior art. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Lauks further teaches a sealing element (715) for sealing the injector fluid flow path along a perimeter thereof to prevent

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flow of the injector fluid from the injector fluid flow path at the perimeter during electro-osmotic pumping of the injector fluid. (Refer to Figure 7B)

Regarding claims 1-3, Lauks fails to teach a valve for opening the reservoir and selectively supplying the injector fluid from the integral reservoir to the application end.

It is conventionally known in the art to provide valves in order to meter the amount of liquid desired through a system. It would have been obvious to one having ordinary skill in the art to provide Lauks with a valve for opening the reservoir and selectively supplying the injector fluid from the integral reservoir to the application end in order to precisely meter the amount of injector fluid desired through the system.

Regarding claim 4, the injector fluid flow path is made of a material having a surface charge and zeta potential. (Refer to Col. 11, Lines 18-19)

Regarding claims 5, the electrodes (702-705) is a pair of spaced apart first and second electrodes. (Refer to Figure 7B)

Regarding claims 6 and 14, the first electrode (702 or 703 or 704 or 705) is in electric contact with the injector fluid in the injector fluid flow path at a first location and the second electrode is positioned at a second, spaced apart location for electrical contact with the injector fluid. (Refer to Figure 7B)

Regarding claims 7-9, Lauks teaches a controller (refer to 708 or 709) for electrically connecting the first and second electrodes to electric control instrument for generating the electrical potential. (Refer to Col. 43, Lines 35-46)

Regarding claims 10 and 15, the injector fluid flow path contains an initially dry micro-porous material admixed with a dry reagent. (Refer to Col. 44, Lines 5-25)

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Regarding claims 11 and 16, the dry reagent is selected from the group of luminogenic, fluorogenic, electrogenic and chemoluminescent and combinations thereof. (Refer to Col. 16, Lines 23-26)

Regarding claim 12, Lauks further teaches a receiving element is selected from the group of a micro-porous lateral flow path, a pipe, a microreactor and a chamber. (Refer to col. 13, Lines 24-29)

Regarding claim 21, Lauks fails to teach the electro-osmotically pumped fluid has an electrolyte concentration of less than 10 milimolar. However, applicants' are claiming an apparatus. It is fundamental that an apparatus claim defines the structure of the invention and not how the structure is used in a process or what **material** the structure houses in carrying out the process. (See Ex parte Masham) As long as the device of Lauks is capable of electro-osmotically pumping fluid that has an electrolyte concentration of less than 10 milimolar, then the prior art meets the requirements of the claimed feature.

Regarding claims 22 and 23, Lauks fails to teach the fluidic path is trapezoidal shaped with its fluid application end wider than its effluent end. It would have been obvious to one having ordinary skill in the art to provide a fluidic path that is trapezoidal shaped with its fluid application end wider than its effluent end to achieve predictable results of better flow control through the device.

Response to Arguments

8. Applicant's arguments with respect to claims 1-12 and 14-28 have been considered but are moot in view of the new ground(s) of rejection. Refer to rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI NAGPAUL whose telephone number is (571)272-1273. The examiner can normally be reached on Monday thru Friday (10:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jyoti Nagpaul/

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